meanings of "and" and "or" include both the conjunctive and disjunctive and may be used interchangeably unless the context expressly dictates otherwise; the phrase "exclusive or" may be used to indicate situation where only the disjunctive meaning may apply. In addition, as used in the description herein and throughout the claims that follow, the meaning of "about" and/or "approximately" refers to ±10% of the quantity indicated, unless otherwise indicated.

[0073] While the present invention has been described in terms of exemplary embodiments, it will be understood by those skilled in the art that various modifications can be made thereto without departing from the scope of the invention as set forth in the claims.

1. An electric vehicle system for transporting human passengers or cargo, the electric vehicle system comprising:

an electric vehicle comprising a body, a plurality of wheels, a cargo area, an electric motor for propelling the electric vehicle, and a primary battery for providing electrical power to the electric motor for propelling the electric vehicle; and

an auxiliary battery module that is attachable to the electric vehicle for providing electrical power to the electric motor via a first electrical connector at the auxiliary battery module and a second electrical connector at the electric vehicle that mates with the first electrical connector,

the auxiliary battery module being configured to be positioned in the cargo area while supplying power to the electric motor,

the auxiliary battery module being configured to be removable from and reattachable to the electric vehicle,

the auxiliary battery module including an integrated cooling system for cooling the auxiliary battery module during operation of the electric vehicle, the integrated cooling system comprising a conduit for circulating coolant within the auxiliary battery module.

2. The electric vehicle system of claim **1**, comprising:

a first fluid connector at the auxiliary battery module and a second fluid connector at the electric vehicle that mates with the first fluid connector, the first fluid connector and second fluid connector when engaged creating a closed loop comprising a conduit, a portion of the first closed loop passing through the auxiliary battery module and providing for the flow of coolant through the auxiliary battery module.

3. The electric vehicle system of claim **1**, the integrated cooling system of the auxiliary battery module being separate and distinct from a cooling system for cooling the primary battery.

4. The electric vehicle system of claim **3**, the integrated cooling system of the auxiliary battery module comprising a closed coolant loop comprising a coolant line, a coolant pump configured to circulate coolant though the coolant line and within the auxiliary battery module, and a heat exchanger.

5. The electric vehicle system of claim **1**, the integrated cooling system of the auxiliary battery module comprising a closed coolant loop comprising a coolant line, a coolant pump configured to circulate coolant though the coolant line and within the auxiliary battery module, and a heat exchanger.

6. The electric vehicle system of claim **4**, the integrated cooling system of the auxiliary battery comprising a refrigerant system configured to deliver refrigerant to the heat exchanger to cool the coolant in the coolant line.

7. An auxiliary battery module for providing electrical power to a powertrain of an electric vehicle for transporting human passengers or cargo, the auxiliary battery module co p sing:

a battery housing;

a battery disposed in the battery housing;

support portions at the battery housing configured to securely mount the battery housing of the auxiliary battery module to support members of an electric vehicle at a cargo area of the electric vehicle using releasable fasteners or latching mechanisms to permit the auxiliary battery module to be removed from and reattached to the electric vehicle;

a first electrical connector at the battery housing and electrically connected to the battery disposed in the battery housing, the first electrical connector configured to mate with a corresponding second electrical connector at the electric vehicle to permit the auxiliary battery module to power a powertrain of the electric vehicle to propel the electric vehicle; and

an integrated cooling system inside the battery housing for cooling the auxiliary battery module during operation of the electric vehicle, the integrated cooling system comprising a conduit for circulating coolant within the auxiliary battery module.

8. The auxiliary battery module of claim **7**, comprising:

a first fluid connector at the battery housing of the auxiliary battery module and connected to a conduit within the battery housing, the first fluid connector configured to mate with a second fluid connector at the electric vehicle, an engaged connection of the first fluid connector and the second fluid connector being configured to pass coolant from the electric vehicle through the first fluid connector and permit circulation of coolant within the conduit in the auxiliary battery module.

9. The auxiliary battery module of claim **7**, the integrated cooling system of auxiliary battery module being separate and distinct from a cooling system for cooling the primary battery.

10. The auxiliary battery module of claim **9**, the integrated cooling system of auxiliary battery module comprising a closed coolant loop comprising a coolant line, a coolant pump configured to circulate coolant though the coolant line and within the auxiliary battery module, and a heat exchanger.

11. The auxiliary battery module of claim **7**, the integrated cooling system of auxiliary battery module comprising a closed coolant loop comprising a coolant line, a coolant pump configured to circulate coolant though the coolant line and within the auxiliary battery module, and a heat exchanger.

12. The auxiliary battery module of claim **11**, the integrated cooling system of the auxiliary battery comprising a refrigerant system configured to deliver refrigerant to the heat exchanger to cool the coolant in the coolant line.

13. A method of utilizing an auxiliary battery module with an electric vehicle, the electric vehicle suitable for transporting human occupants or cargo, the method comprising:

attaching an auxiliary battery module to an electric vehicle, the auxiliary battery module being configured to be removable from and reattachable to the electric vehicle, said attaching comprising electrically connect-